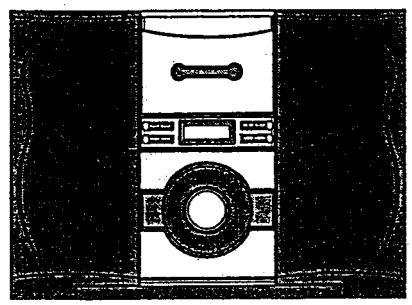
Technischer Kundendienst
UTS-Universal
Technik-Service GmbH

Best.-Nr.:

Technische Unterlage 101.130.3

ETNr. 2200251

VTC-CD 10952



CD1301

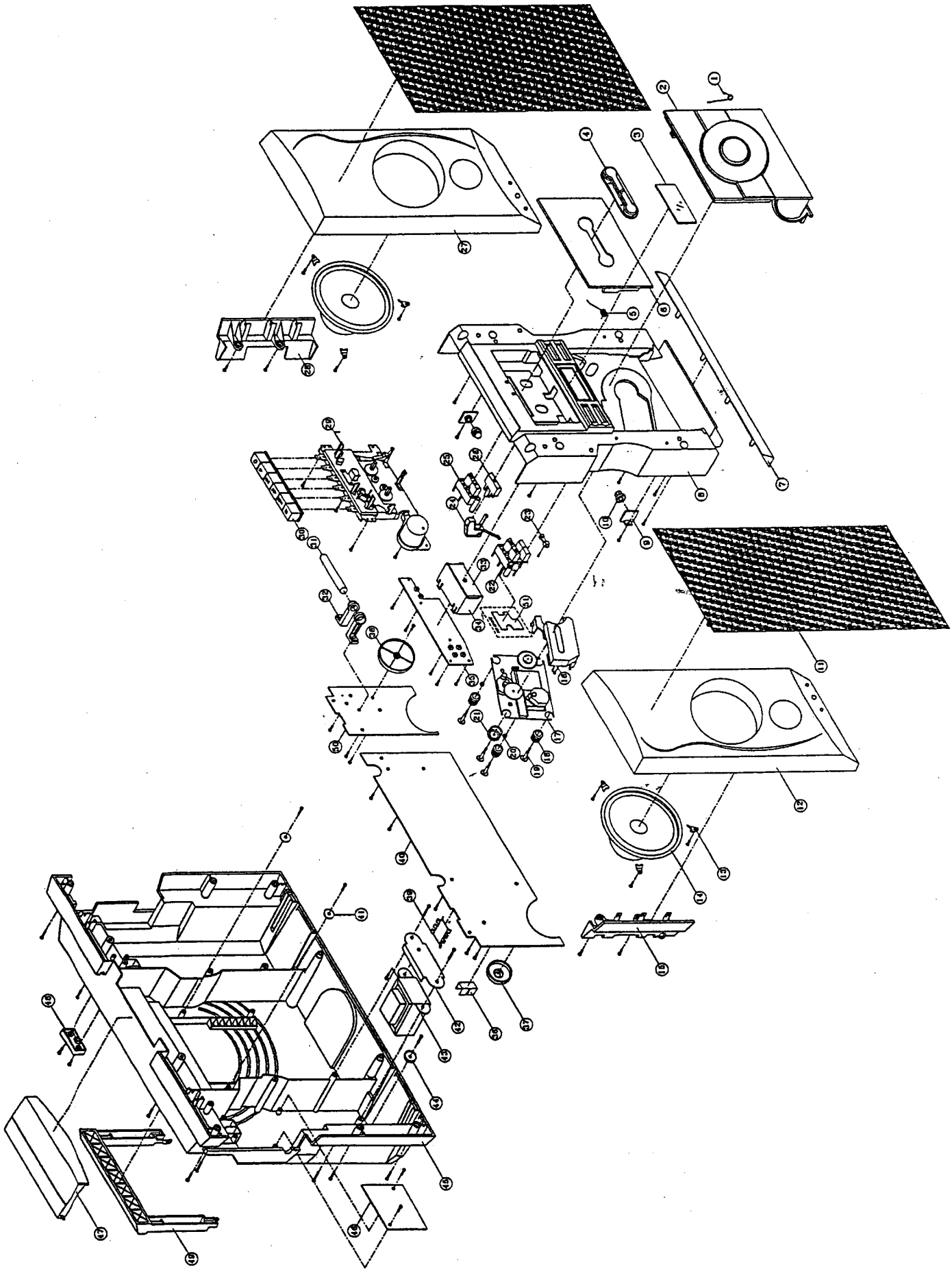
UTS-Nr.: 999 QUELLE
Best.Nr.: 1011303/01
Ger.Bez.: UNIVERSUM-MINI-ANLAGE

GKz: G GERAET
WGT: 650 MICRO-/MINI-ANLAGEN
KD-Sektor: R RUNDFUNK
BaumNr.: 00 KEIN DIAGNOSEBAUM VORHANDEN
Klassierung: STK STEREOKOMBINATION
IFW-FehlerGru.: 205 RDF.,VERST.,TB.,PHONO,CD,CB
Type/Privileg/Universum.Nr VTC-CD10952
Beschreibung
VK-Preis: 149.00

Serviceart: 01 UTS
Garantie fuer Kunden 12 Monate
Sondervereinbarungen: 0 SIEHE SERVICEART

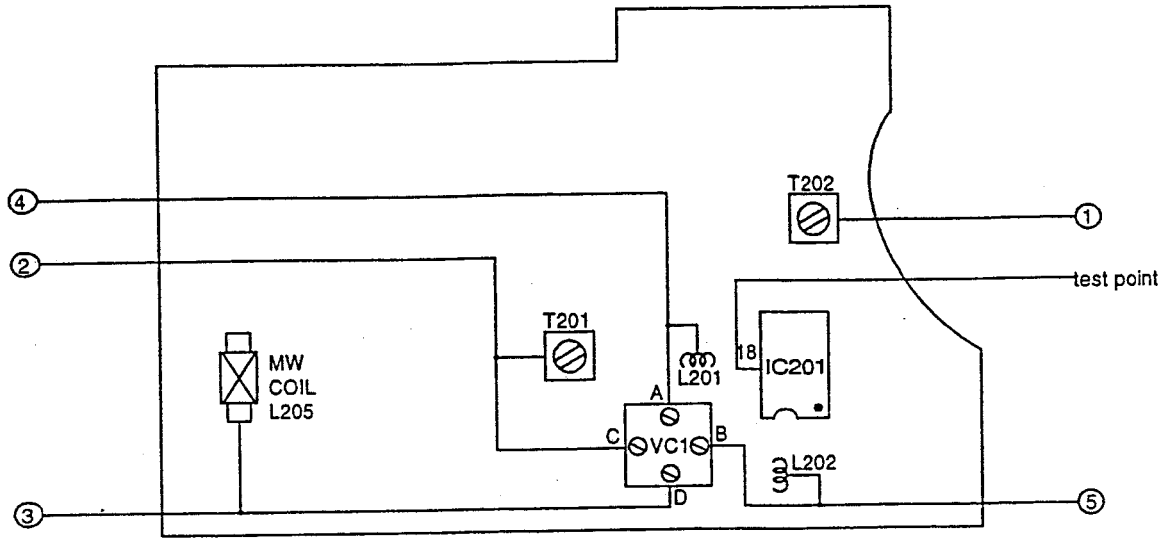
Garantiereparatur 0004063 UTS UNIVERSAL-TECHNIK-SERVICE
Sondervereinbarungen: 0 SIEHE SERVICEART

EXPLODED DRAWING - CD1301



ALIGNMENT SET-UP PROCEDURES

TUNER SECTION



CD1301-01-02

1. AM IF Adjustment
   Test point: IC201 (T2111N) 18Pin
   Adjustment location: T202
   T202 ---------- 455KHz

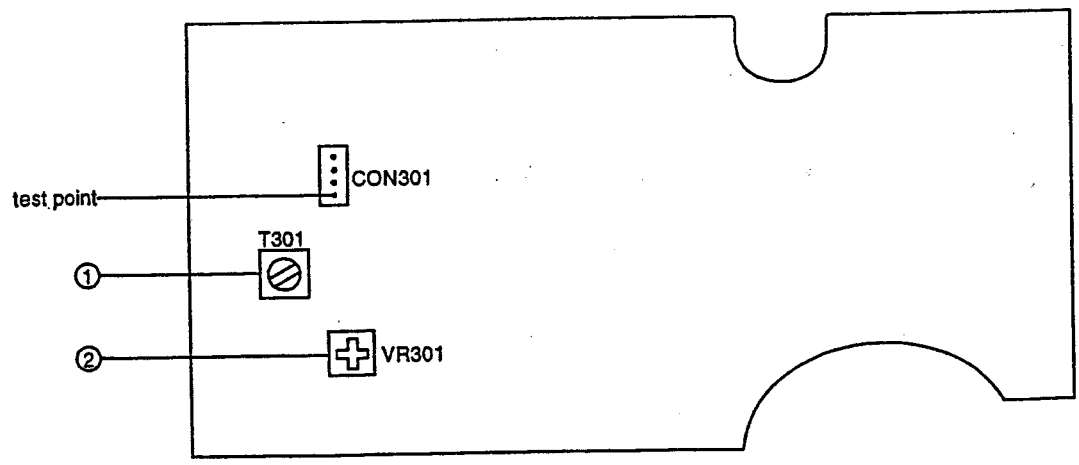
2. MW Frequency Range Adjustment
   Test point: IC201 (T2111N) 18Pin
   Adjustment location: T201, VC1C
   T201 ---------- 522KHz
   VC1C ---------- 1635KHz

3. MW Tracking Adjustment
   Test point: IC201 (T2111N) 18Pin
   Adjustment location: L205, VC1D
   L205 ---------- 600KHz waveform max.
   VC1D ---------- 1400KHz waveform max.

4. FM Frequency Range Adjustment
   Test point: IC201 (T2111N) 18Pin
   Adjustment location: L201, VC1A
   L201 ---------- 87.5MHz
   VC1A ---------- 108MHz

5. FM Tracking Adjustment
   Test point: IC201 (T2111N) 18Pin
   Adjustment location: L202, VC1B
   L202 ---------- 90MHz waveform max.
   VC1B ---------- 106MHz waveform max.

CASSETTE SECTION

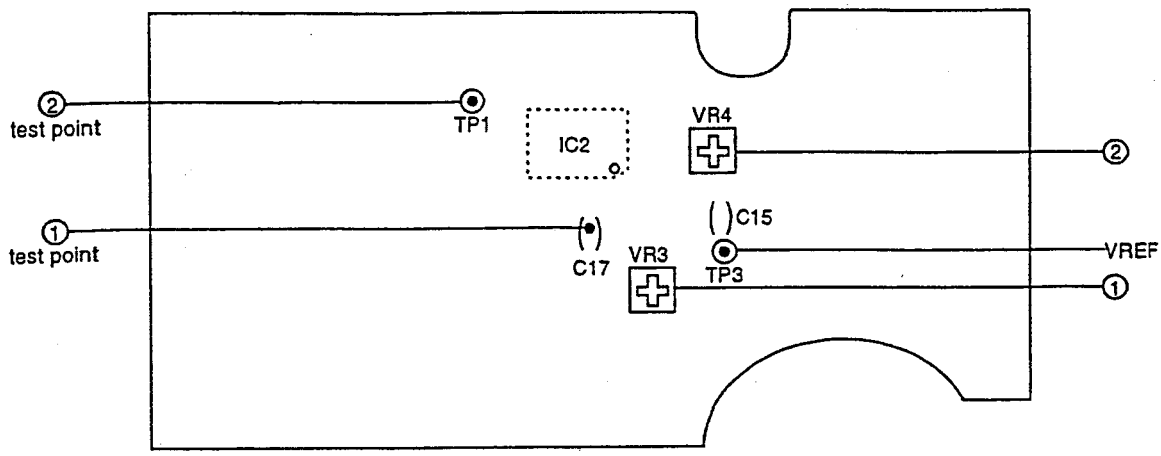


CD1301-01-01

1. Bias Frequency Adjustment
   Test point: CON301 4Pin
   Adjustment location: T301
   T301 ---------- 60±2kHz

2. Bias Level Adjustment
   Test point: CON301 4Pin
   Adjustment location: VR301
   VR301 ---------- 14.5V

CD SECTION



CD1301-01-01

1. RF Adjustment
   Test point: IC2 1Pin (C17) and VREF
   1) Connect an oscilloscope to the test points.
   2) Conntect the oscilloscope output to Jitter meter.
   3) Turn on power switch.
   4) Load test disc (TCD-782) and play the second track.
   5) Adjust VR3 so that RF waveform is maximum and the value of jitter is maximum (≤30ns).
   6) Turn off power switch.

2. EF Balance Adjustment
   Test point: IC2 35Pin (TC) and VREF
   1) Connect an oscilloscope to the test points.
   2) Turn on power switch.
   3) Load test disc (TCD-782) and play.
   4) Press SKIP button so that EF waveform appears.
   5) Adjust VR4 so that EF waveform is symmetrical.
   6) Turn off power switch.

VOLTAGE CHART - CONTINUED

CONTROL SECTION
TEST CONDITION: CD PLAY & FM TUNER

IC5 (TC9320F-004)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
FM ST.	/	/	/	/	/	/	/	/	/	/	/	/
CD PLAY	/	/	/	/	/	/	/	/	/	/	/	/
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
FM ST.	/	/	/	/	0	0	0	0	0	2.69	0	0
CD PLAY	/	/	/	/	3.82	3.42	3.42	3.38	0	2.73	0	0
PIN'S NUMBER	25	26	27	28	29	30	31	32	33	34	35	36
FM ST.	0	0	0	0	5.31	0	5.28	0	0	0	5.35	5.35
CD PLAY	0	0	0	0.17	5.18	5.31	0	3.44	4.47	0	0	0
PIN'S NUMBER	37	38	39	40	41	42	43	44	45	46	47	48
FM ST.	3.19	0	0	5.30	4.52	0	5.36	4.98	0	0	0	0
CD PLAY	0	4.90	0	5.30	2.58	0	5.35	4.98	0	0	0	0
PIN'S NUMBER	49	50	51	52	53	54	55	56	57	58	59	60
FM ST.	0	2.81	0	5.36	0	2.59	2.77	2.70	2.67	/	/	/
CD PLAY	0	0	2.78	5.35	0	2.56	2.76	2.68	2.68	/	/	/

REMOTE CONTROL SECTION
TEST CONDITION: QUIESCENT VOLTAGE

IC701(PT2221-001)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
	0.26	0.14	0.07	0	0	2.98	2.98	2.98	2.05	0	2.98	2.98
PIN'S NUMBER	13	14	15	16	17	18	19	20				
	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98				

IC902 (BU4066BC)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
	3.46	1.77	1.76	4.95	0	0.01	0	1.94	4.28	4.25	1.67	0.01
PIN'S NUMBER	13	14										
	0	5.01										

IC901(NH01SS)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
	0	0	0	0	0	0	5	0.01	0.01	0.01	0	2.47
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22		
	2.53	4.98	0	0	0	0	0	0	5.01	5.01		

VOLTAGE CHART - CONTINUED

IC301 (BA-3308)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9
PLAY	1.77	0	1.77	0	0	7.44	1.78	0	1.78

IC801 (TA8227P)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
TAPE PLAY	13.32	7.14	13.10	0	0.56	0	0	0.56	7.07	13.11	7.05	13.37

CD SECTION
TEST CONDITION: CD PLAY

IC1 (TC9284BF)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
	0	2.54	2.75	4.89	2.76	2.53	0	4.86	4.86	4.87	4.89	4.89
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
	0	4.53	4.53	4.45	4.51	4.34	4.72	2.28	4.88	0.09	0.09	0.01
PIN'S NUMBER	25	26	27	28	29	30	31	32	33	34	35	36
	4.89	0	0.61	2.08	2.08	2.08	1.61	2.08	1.70	2.08	4.86	1.80
PIN'S NUMBER	37	38	39	40	41	42	43	44	45	46	47	48
	4.86	2.08	2.08	2.20	4.09	4.83	2.42	2.43	2.07	2.06	2.07	2.07
PIN'S NUMBER	49	50	51	52	53	54	55	56	57	58	59	60
	2.07	2.26	2.24	2.07	2.08	0	2.36	4.86	2.35	4.86	4.87	2.07
PIN'S NUMBER	61	62	63	64	65	66	67	68	69	70	71	72
	2.03	2.07	1.93	1.44	0	4.85	0	0	1.62	2.43	2.43	2.01
PIN'S NUMBER	73	74	75	76	77	78	79	80				
	2.41	0.01	2.42	4.83	4.87	2.04	2.17	0				

IC2 (TA2065F)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
	2.09	2.06	2.08	4.12	2.25	2.27	2.06	2.06	2.09	2.08	1.98	1.98
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
	2.08	2.08	2.08	2.12	2.09	2.45	0	4.87	4.86	2.10	2.09	2.16
PIN'S NUMBER	25	26	27	28	29	30	31	32	33	34	35	36
	2.07	2.04	2.07	2.07	1.34	2.07	2.07	2.07	2.07	2.07	2.06	2.07
PIN'S NUMBER	37	38	39	40	41	42	43	44	45	46	47	48
	2.07	2.08	1.80	2.03	2.05	1.80	2.07	2.07	3.71	0.19	2.07	2.08

IC3 (TA2092N)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
	0.01	3.46	7.77	3.67	2.11	2.08	3.56	2.05	3.46	7.79	3.69	0
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
	0	3.18	7.78	3.86	2.17	0	7.78	2.07	3.56	7.81	3.60	0

IC4 (BA4558N)

PIN'S NUMBER	1	2	3	4	5	6	7	8
	5.01	4.54	4.52	0	4.51	4.50	4.96	7.42

VOLTAGE CHART

THE MEASURED VALUE IS DC VOLTAGE
UNIT: V
TUNER SECTION
TEST CONDITION: SET AM/FM TUNER ON ONE FREQUENCY

IC201 (TA2111N)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
MW	0	0	1.30	6.12	0.48	6.13	5.46	6.13	0	0	5.65	6.04
FM	0.82	0	0.32	5.54	0.13	5.82	5.73	5.70	0	0	5.36	5.04
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
MW	1.38	1.37	5.37	6.14	0.70	1.14	1.29	6.14	6.14	6.14	6.14	6.14
FM	1.37	1.36	5.07	5.00	0.70	1.16	0.36	5.34	5.81	5.82	5.32	5.82

TRANSISTOR	Q201(C1923)		
	E	C	B
AM	0	2.69	0.74

TRANSISTOR	Q202(C1923)		
	E	C	B
FM	0	1.92	0.74

TRANSISTOR	Q203(A952)			Q204(A952)		
	E	C	B	E	C	B
FM	5.74	5.00	5.76	5.82	5.07	5.81
AM	6.14	6.14	5.49	6.14	5.38	6.14

CASSETTE & POWER SECTION
TEST CONDITION: TAPE PLAY

IC802 (BU4066BE)

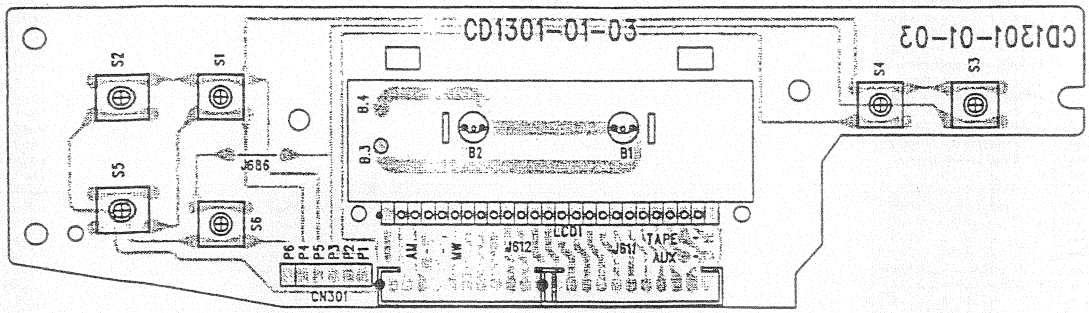
PIN'S NUMBER	1	2	3	4	5	6	7
RADIO	0	0	0	0	0	3.87	0
TAPE	0	0	0	0	3.24	0	0
CD	0	0	0	0	4.40	0	0
PIN'S NUMBER	8	9	10	11	12	13	14
RADIO	0	0	0	0	3.87	0	5.09
TAPE	0	0	0	0	0	3.24	5.09
CD	0	0	0	0	0	4.40	5.09

TRANSISTOR	Q301(2SC1815)		
	E	C	B
REC./BEAT1	0	0	0.70
REC./BEAT2	0	21.93	0
TRANSISTOR	Q302(8050)		
	E	C	B
REC.	0.10	7.79	0.65

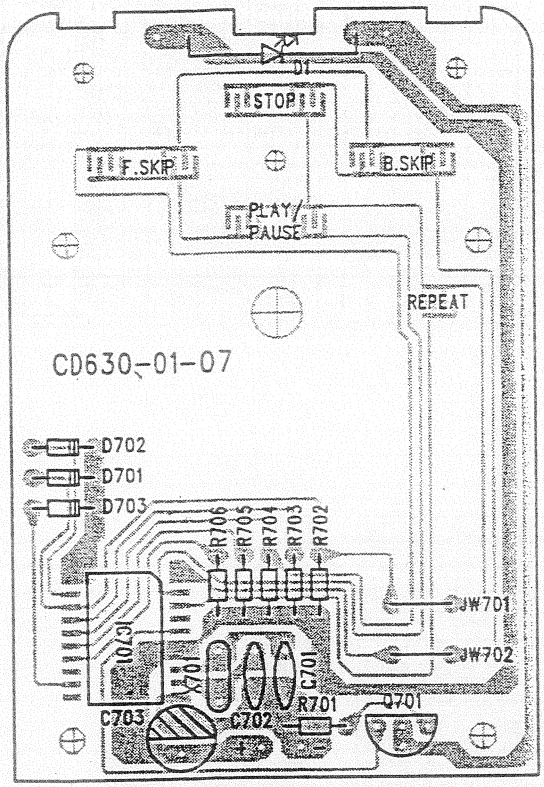
TRANSISTOR	Q601(8550)			Q602(C1815)			Q603(C1815)			Q604(B1185)		
	E	C	B	E	C	B	E	C	B	E	C	B
TUNER	13.67	5.36	12.97	4.69	12.97	5.25	7.14	13.00	7.71	13.69	7.81	12.99

TRANSISTOR	Q11(8550)			Q13(DTC114)		
	E	C	B	E	C	B
TUNER	7.80	7.79	7.04	0	0	5.28

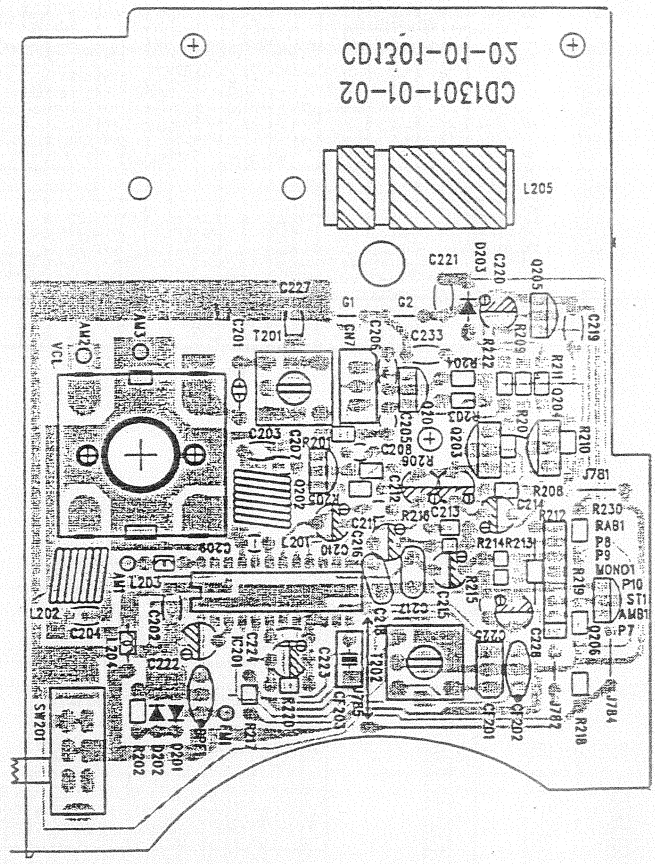
CD CONTROL KEY & DISPLAY BOARD
CD1301-01-03



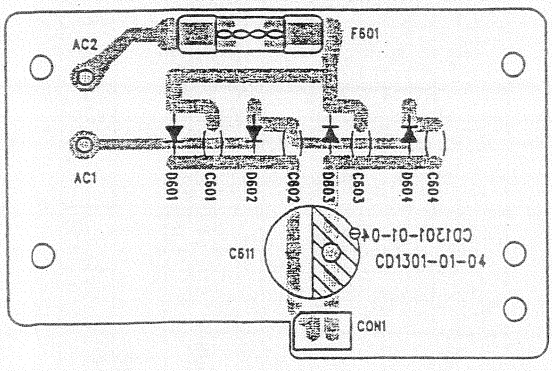
REMOTE BOARD (OPTIONAL)
CD630-01-07



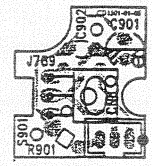
TUNER BOARD
CD1301-01-02



RECTIFIER BOARD
CD1301-01-04



REMOTE SENSOR BOARD
CD1301-01-05

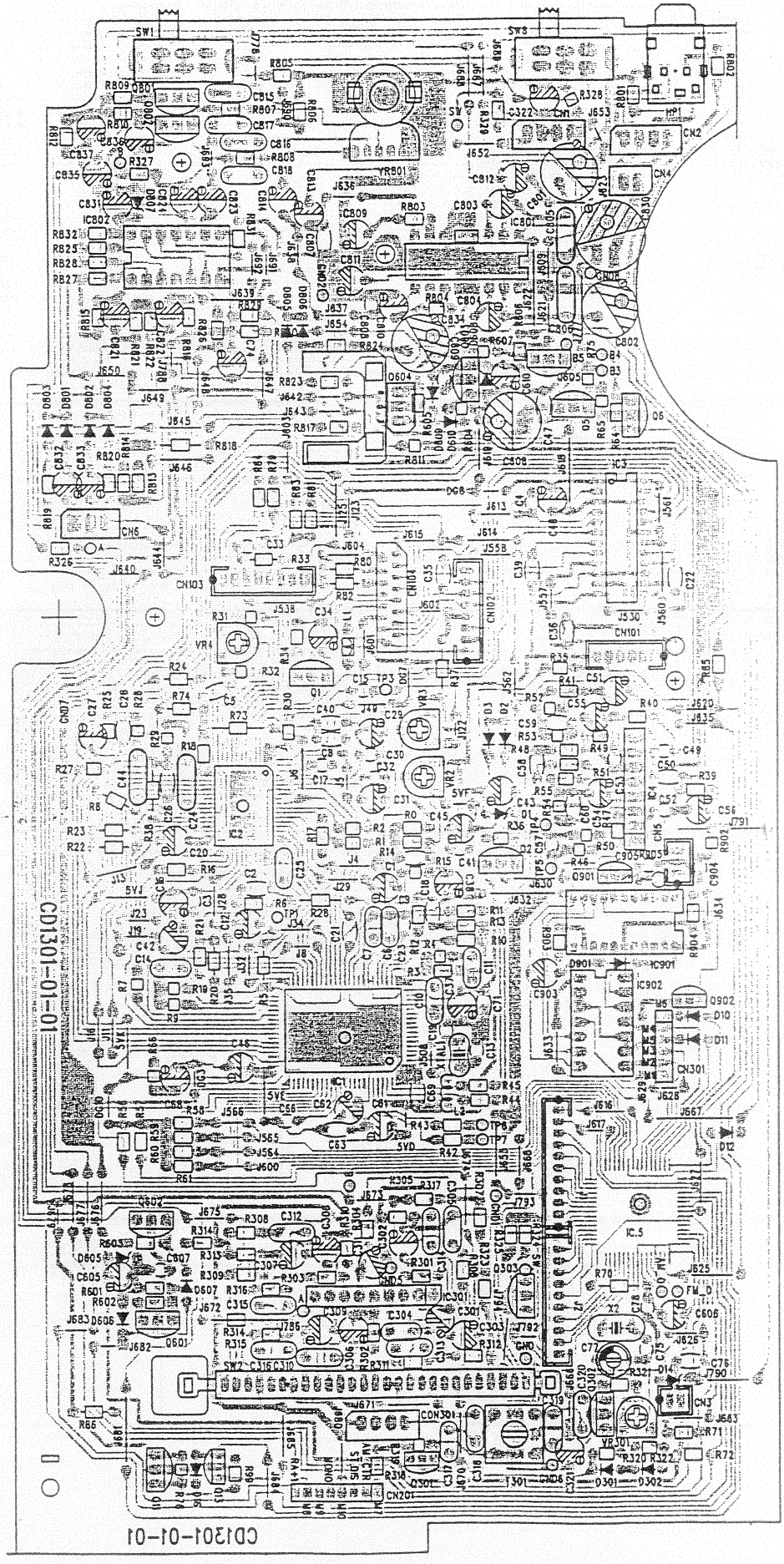


REMARKS:
PCB Part No.: 033-001301-400 of this model are assembled and aligned in FULL SET and are supplied in FULL SET for serving.

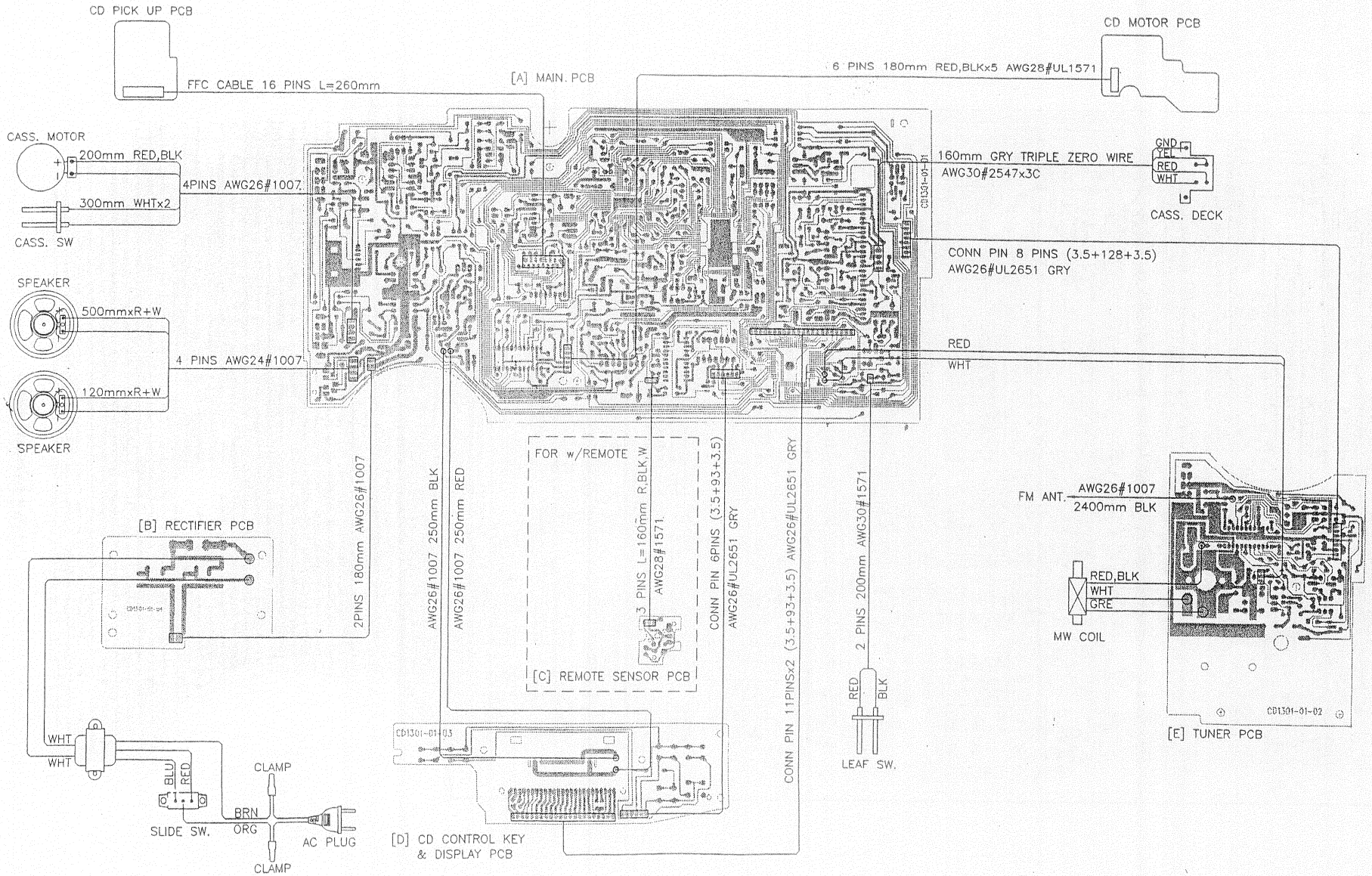
PRINTED CIRCUIT BOARDS

MAIN BOARD

CD1301-01-01

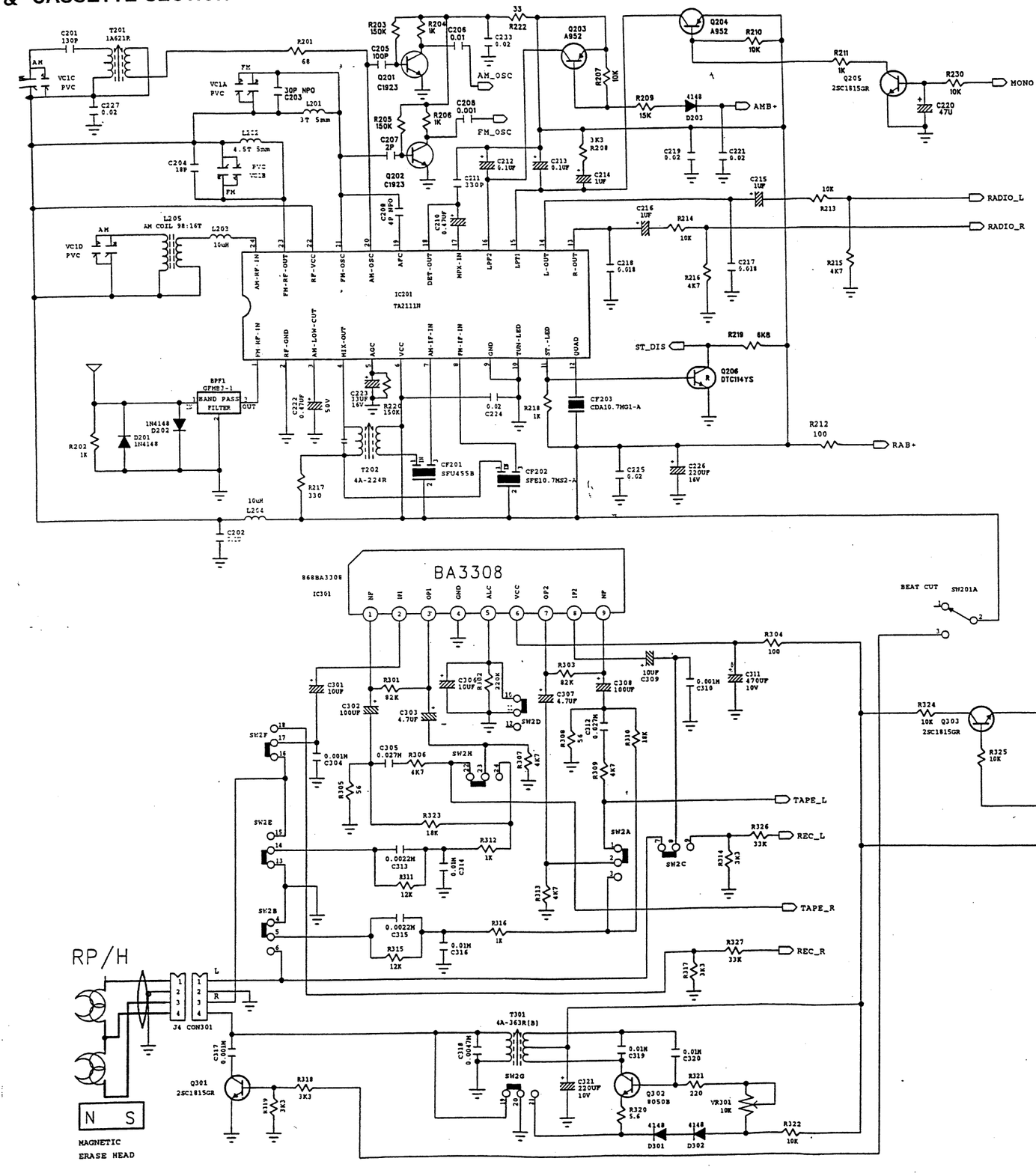


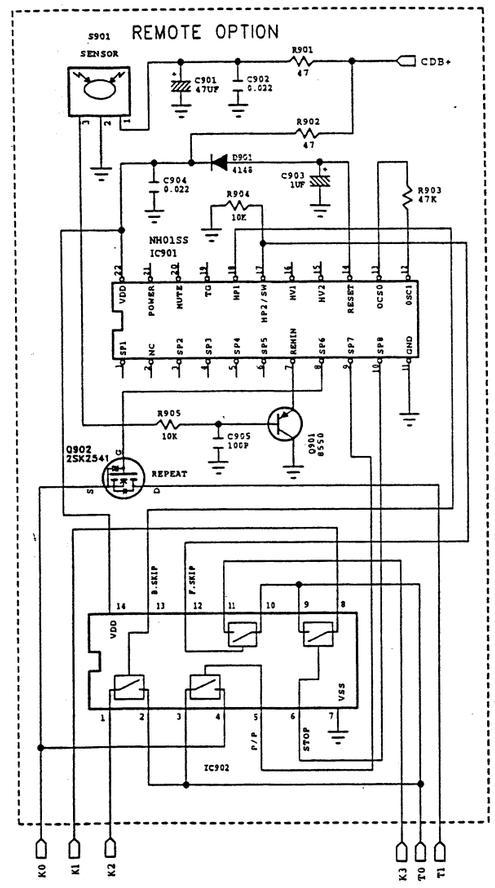
WIRING DIAGRAM



SCHEMATIC DIAGRAMS

TUNER & CASSETTE SECTION

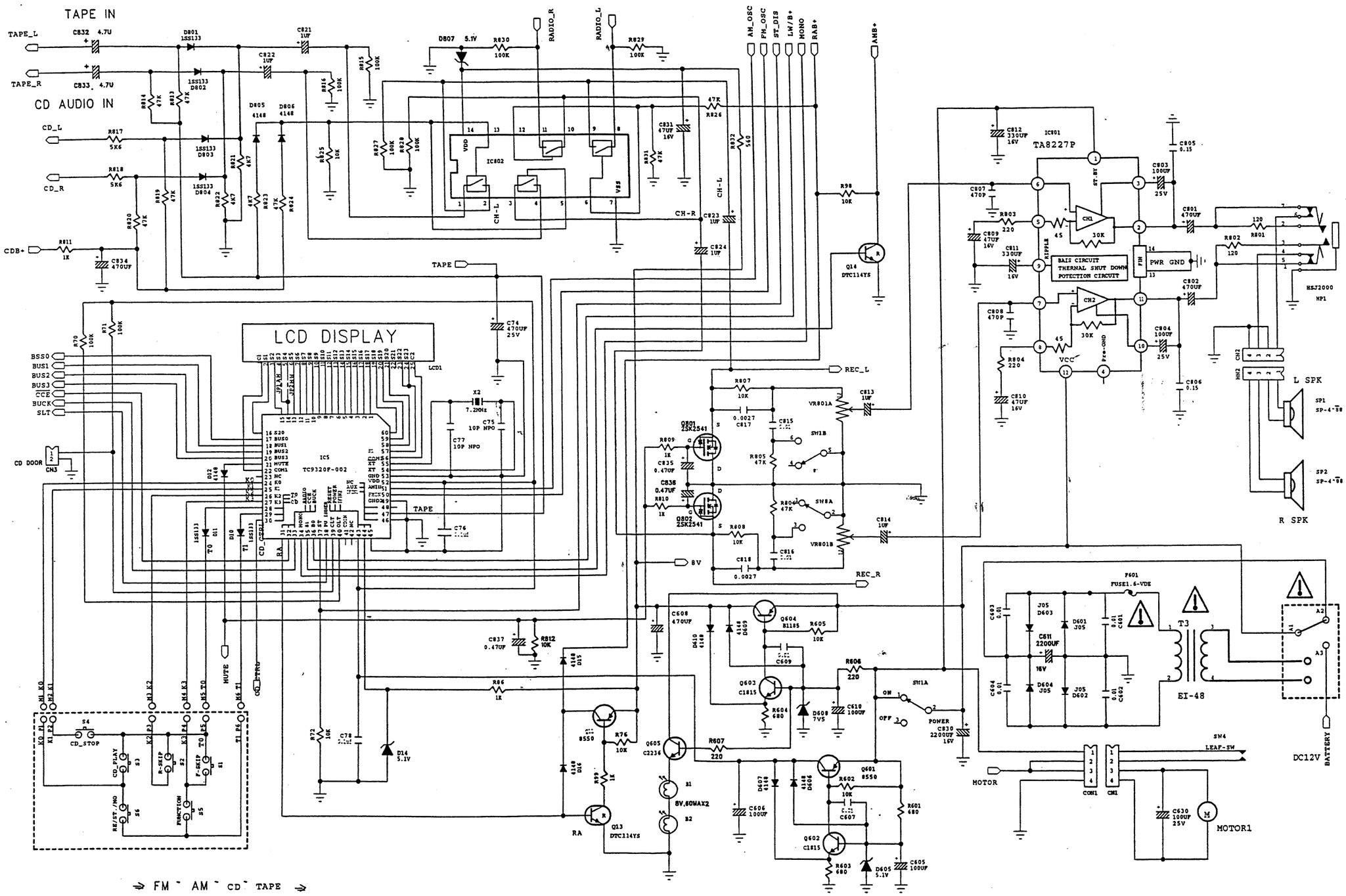




NOTE:

1. All resistance values are indicated in "ohms" (k=1000ohms.M=1000kohms).
2. All capacitance values are indicated in "μF"($P=10^{-6}$ μF).

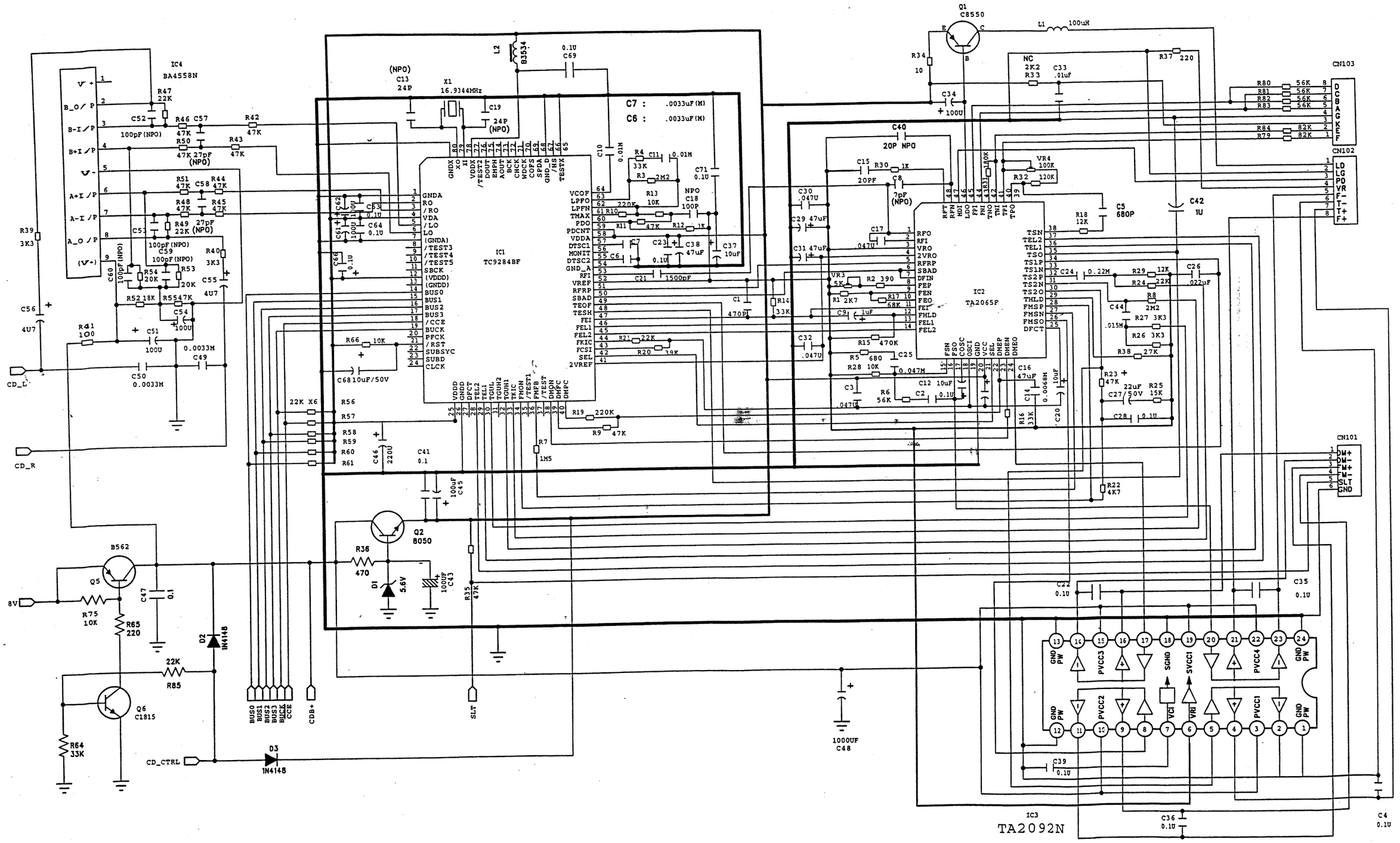
CONTROL SECTION



NOTE:

1. All resistance values are indicated in "ohms" (k=1000ohms.M=1000kohms).
2. All capacitance values are indicated in "μF"($P=10^{-6}$ μF).

CD SECTION

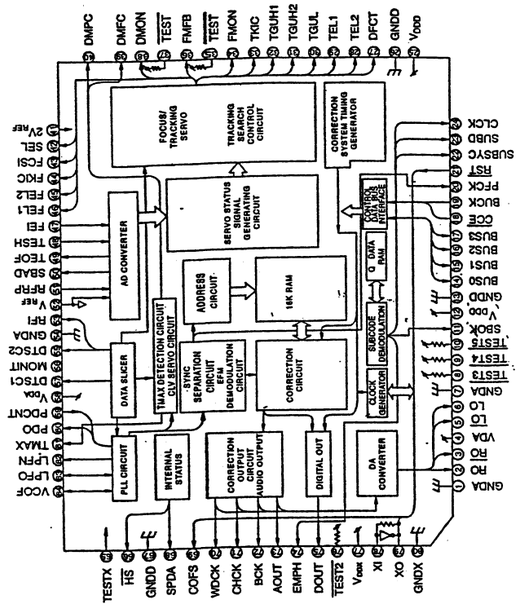


NOTE:

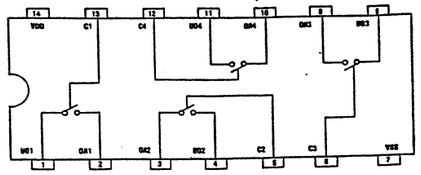
1. All resistance values are indicated in "ohms" (k=1000ohms.M=1000kohms).
2. All capacitance values are indicated in "μF"($P=10^{-6}$ μF).

IC LEAD IDENTIFICATION AND INTERNAL DIAGRAMS

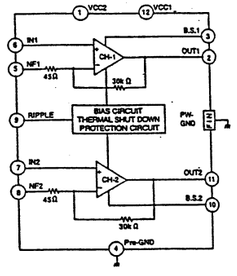
IC1 TC9284BF



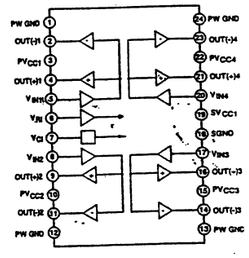
IC802 /C902 BU4066BE/BC



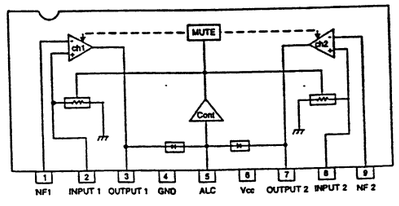
IC801 TA8227P



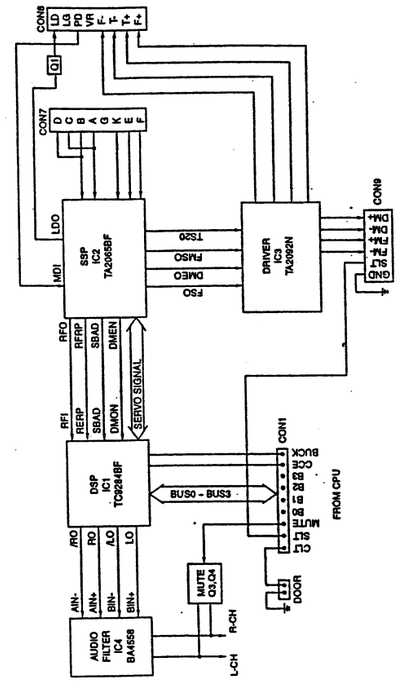
IC3 TA2092N



IC301 BA3308

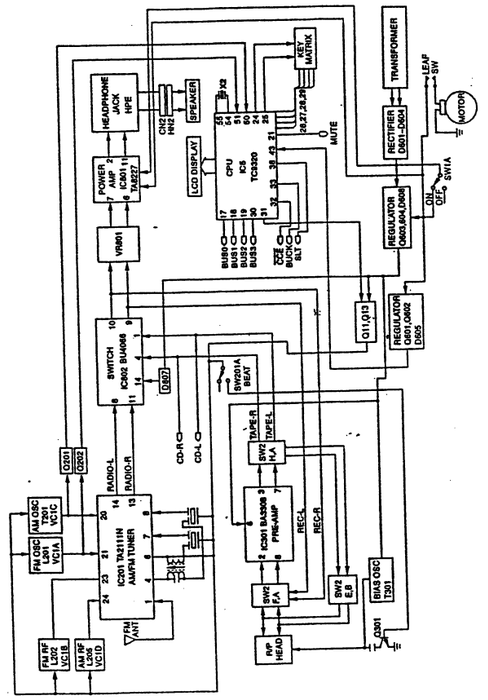


CD SECTION

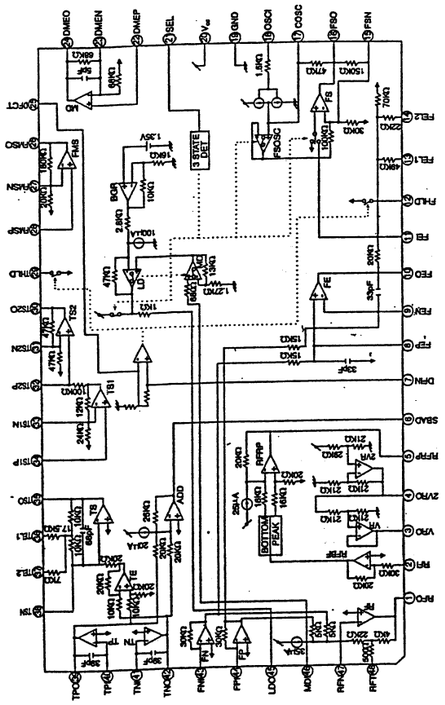


BLOCK DIAGRAMS

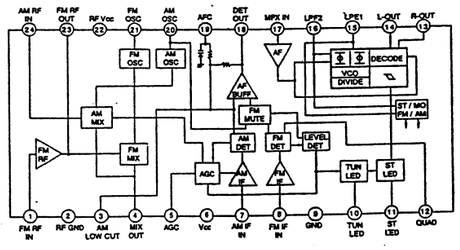
TUNER & CASSETTE SECTION



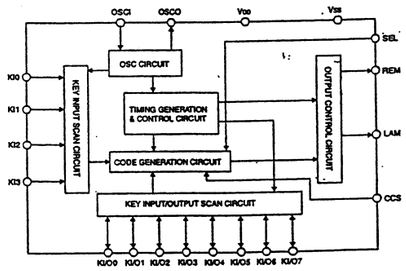
IC2 TA2065F



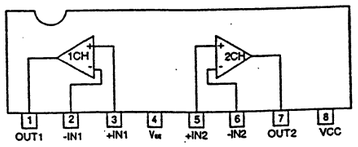
IC201 TA2111N



IC701 PT2221-001



IC4 BA-4558N



IC901 NH01SS PIN DESCRIPTION

Pin No.	Pin Name	I/O	Function
14	RESET	Input	System reset input pin A built-in pull-up resistor is provided
22	VDD		Positive power supply pin
11	GND		GND pin
13,12	OSC0,OSC1		Pins to be connected to the system clock reasonator (typical 51k resistor for 500kHz osc)
1,3–6,8–10	SP1 TO SP8	Output	Pulse key output One 107ms pulse is generated when corresponding transmitter key is pressed
19–21	TG, POWER MUTE	Output	Toggle between Hi/Lo when key is pressed Logical relation between MUTE & POWER
15,16,18	HP1 HV1,HV2	Output	Output keys high when transmitter key is pressed and hold. For HV1& HV2, MUTE pin is reseted to low whenever there is a high output
7	REMIN	Input	Receiving signal input (carrier eliminated)
17	SW		Power on initialization for selecting UPD6122 & UPD6121

IC5 TC9320F